Mateo Aguilera

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Professional Summary

Motivated Biomedical Engineering student at the University of Colorado Boulder with a foundation in engineering design, mathematics, and biological systems. Experienced in CAD modeling, data analysis, and laboratory procedures. Demonstrates teamwork and communication skills through teaching and volunteer work. Interested in applying analytical and design skills to medical technology and healthcare innovation.

Key Skills

SolidWorks | Excel | Word | Powerpoint | MATLAB | Python | VBA | Differential Equations | Linear Algebra | Calculus | 3D Printing | Laser Cutting | Statics | Organic Chemistry

Education

University of Colorado Boulder, May 2027 GPA: 3.74

Deans List Fall 2025, Fall 2024 Spring 2024, Fall 2023

Joseph A. Sewall Scholarship 2023-present

- Bachelor of Science in Biomedical Engineering, Pre-Health

Relevant coursework: Introduction to Differential Equations and Linear Algebra, Computer Aided Design and Fabrication, Organic Chemistry, Statics and Structures, Biotransport, Matrix Methods & Applications

Experience

University of Colorado Learning Assistant Program |Fall 2024-Fall 2025 Learning Assistant for Pre-calculus for Engineers (APPM 1235)

- Collaborated with Professors via weekly meetings to organize and revise lesson plans to deliver to students in lecture. Course content was reviewed in order to identify challenging ideas for students. Discussed and implemented modifications to the lesson plans to facilitate student comprehension of complex concepts.
- Assisted over 20 students per lecture section in mastering course material by explaining concepts, summarizing key information, developing problem-solving strategies, and using guided questioning to assess understanding.
- Facilitated work groups among the students to encourage peer to peer learning. Ensured the accuracy of students' shared information and provided clear explanations when needed to reinforce key concepts.

Rubio's Coastal Grill |September 2022-June 2023 Line Cook 3-4

- Prepared and assembled food in a fast paced environment while maintaining speed, quality, and cleanliness.
- Performed daily food prep tasks including chip frying and meat grilling to ensure speedy, continuous service throughout the day.
- Monitored ingredient levels, restocked stations, and communicated workstation needs to increase efficiency and lower downtime.

Projects

Modeling Disease Epidemics with Markov Chains -APPM 2360 Introduction to Differential Equations and Linear Algebra **Spring 2025**

- Created flow charts to describe how infectious diseases move through a population.
- Modeled the flow charts descriptions using Markov chains to predict how an epidemic would develop.
- Used different initial conditions and different models to describe different situations and studied long term results of the models.
- Graphed the results over time using MATLAB in order to describe how epidemics affect populations.

Modeling Cancer Targeting Drug Transport -BMEN 3010 Biotransport **Fall 2025**

- Used pharmacokinetic and receptor-ligand binding models to simulate drug transport via various injection methods.
- Created graphs with simulation data using MATLAB to analyze different physical properties of injection methods.
- Created diagrams to describe what is being modeled in the simulations and what parameters are being used for each component of the biological system.

Volunteering

Lifeline Puppy Rescue | Brighton, CO | **October 2024-present Adoption/Care Volunteer**

- provided care to puppies by administering medication, restaining for microchipping and vaccination, cleaning of kennels, and administering food and water at regular intervals.
- facilitated puppy-adoptee interactions by providing information on said puppy.
- handled small scale renovations on kennels by planning renovations and executing necessary repairs.

Certifications

Dassault Systems Certified SOLIDWORKS Associate (CSWA) ID: C-AGJP6X8S7E **|** MathWorks MATLAB On-Ramp **|** MathWorks MATLAB Solving Ordinary Differential Equations